

Introduction

During the last year, a large number of citizens of New Jersey have become interested in the successful development of rational siting criteria for major hazardous waste facilities. Their main concern is that the health and safety of all New Jersey residents be protected. Many have come to realize that the New Jersey Department of Environmental Protection (DEP) does not want strong siting criteria.

Thousands of citizens have participated in good faith in the public participation process mandated by the "New Major Hazardous Waste Facilities Siting Act" only to see their concerns ignored. They have travelled to distant, hard-to-find meeting halls, written and delivered speeches (often, for the first time in their lives), have attended seminars, workshops and meetings to further educate themselves on the subject, and have suffered many inconveniences in their attempt to affect the DEP.

They have seen the discussion on siting criteria be framed by the chemical industry spokespersons, and decisions made based on assumptions having little to do with reality. One of the most destructive aspects of the siting discussion in New Jersey is that assumptions have been made by regulatory authorities that new hazardous waste facilities will be perfectly run, actually abiding by all laws and regulations and that the regulations are both strong and comprehensive enough to protect the state's residents, that enforcement is rigorous, prosecution is timely and thorough, and that punishment is swift and preventative. Clearly this is not the case. One only has to look at currently operating facilities, including those that are said to be the "state of the art."

"The Legislature finds and declares that the proper treatment, storage or disposal of hazardous waste generated in this State is today the exception, rather than the rule: that the improper treatment, storage or disposal of hazardous waste results in substantial impairment of the environment and the public health...that the choice of hazardous waste disposal sites is now made, all too frequently, on an indiscriminate and illegal basis."¹

The job is still to be done. Siting criteria must be based on reality, not on political strength, economic clout, fantasies, hopes, misplaced trust, promises or ideology. The reality is that laws and regulations are weak, inspection is inadequate (often performed by inadequately trained personnel,

1. "The Major Hazardous Waste Facilities Siting Act."

enforcement is lax, prosecution takes years, and punishment is not enough to deter bad behavior. Environmental Impact Statements are written by industry consultants, paid for by the corporations and reflect their biases.

Accidents do occur, often killing people. Illegal practices do occur. Shortcuts are taken. Pollution control devices are bypassed to increase process rates. Inspections are inadequate. Corruption does exist. Tests are faked. The actual conditions existing at facilities in New Jersey and elsewhere must be the starting point for regulations and this is what the legislators who voted for the "The Major Hazardous Waste Facilities Siting Act," wanted done. People in New Jersey are sick and tired of suffering the health damage from environmental pollution and it doesn't matter very much if the damage was caused accidentally or by design, legally or illegally, through the lack of scientific proof, bad engineering design or the political and economic clout of the chemical industry. "The lack of foresight" cannot be an excuse for disease and death caused by a myopic mad dash for higher profits and professional advancement. The citizens of New Jersey have put up with 5 years of waiting for protective siting criteria, and are now faced with regulations that memorialize and legalize further environmental plunder.

The people of New Jersey, being faced with this intolerable situation have decided to do the job that the DEP was supposed to do - come up with rational siting criteria that will protect the safety and health of the state's residents. An Alternative Siting Commission has been formed, will consider proposals, will hold a public hearing on January 25, 1984 to listen to the concerns and suggestions regarding the siting of new hazardous waste facilities, and will then issue regulations. In order to expedite the process the following recommendations have been compiled from previous testimony at hearings and written proposals received by the Alternative Siting Commission.

Distance

No new major hazardous waste facility may be sited within 5 miles of any municipality or census tract within a municipality having an area greater than one square mile that has a population density greater than 4,000 people per square mile.

The density chosen is four times the state's average, therefore at a minimum, more than 80% of the state's area would still allow for the siting of hazardous wastes facilities. The provision regarding census tracts would protect geographically small but densely populated areas.

There are two main reasons for locating hazardous waste facilities away

from densely populated areas. First, even one major accident could be devastating in a highly populated area. This was demonstrated by the explosions and fire at the Chemical Control site in April, 1980. Second, there is a likelihood that continual toxic air emissions would have an impact on disease rates. This has been shown to be the case for currently existing hazardous waste facilities by research performed by the faculty at the New Jersey College of Medicine and Dentistry.

The criteria being proposed is actually quite conservative and will not completely protect people, however it can work together with very strict rules regarding evacuation plans.

Accidents

A buffer zone must be set based on an uncompromising worst case analysis. In the area of hazardous waste disposal which is fraught with known and unknown dangers it is best to err on the side of caution and establish siting criteria which anticipates the worst possible situation. Accidents may be caused by:

- cutting corners
- equipment failures
- transportation problems
- human error
- unanticipated technical problems - which are likely given the nature of the facility.

In the event of an accident, people living or working in the buffer zone would have to be evacuated. In order to increase the probability of a successful evacuation it is necessary to: 1. Minimize the number of people having to be evacuated. 2. Make sure that a workable evacuation plan exists for those that do have to be evacuated. Both the buffer zone and the evacuation plans must be based on the largest amount of the most toxic chemical allowed - not what the State or a private corporation says is expected.

The DEP says that a 1/2 mile buffer is sufficient, but the justification for a 1/2 mile buffer is not based on an estimate of the effects of the type of chemicals likely to be present nor on the amounts likely to be stored, even temporarily at new major facilities. The USDOT says that a 1/2 mile buffer would protect people from flying fragments in an explosion ~~not~~ from

the gases that leak out. See DEP comments on citizens' criticisms of their proposed regulations and "Highly Hazardous Material Spills and Emergency Planning" by J.E. Zajic and W.A. Himmelman, pub. by Marcel Dekker Inc., N.Y. and Basel, 1978, p. 36ff.

The USDOT came up with evacuation distances based on a spill area of 74.3 sq. meters (about the same area as two rooms in a house) and TLV figures (Threshold Limiting Values - used in industry but criticized by workers and industrial hygienists for being too weak) which do not take into account: the effects on children, the effects of exposure for longer than 8 hours, synergistic effects, or more susceptible populations. Moreover, the spill area corresponds to a one-truck accident not to a major accident at a storage or treatment facility. Even so, the evacuation distances that are recommended range up to 7.6 miles.² Large toxic waste facilities do not want to put any limits on what they can take in, so we must base buffer zone distances on the worst cases i.e. the most toxic chemicals.

Distances for evacuation range from .2 miles for ethylene oxide to 5.2 miles for phosgene in "Hazardous Materials Emergency Response Guidebook", USDOT, Washington, D.C., 1980.

Normal operation

Distance must be used as one way to protect people. Currently, there are no standards for emissions of most toxic air pollutants. Distance is the only protection people have.

"We are now beginning to suffer the severe, delayed consequences of the post-World War II boom in exposure to toxic chemicals. The slow epidemic of cancer, genetic mutations, birth defects, respiratory diseases, nervous disorders, and a host of other killing and disabling illnesses - all linked to toxic exposure in a growing number of cases - have become a frightening part of daily life in many parts of America. Even more frightening is that things may well get worse, for today's cancers are the result of exposure 15 to 40 years ago...Controlling cancer causing air pollutants is one necessary step against this disease...The Clean Air Act has long contained special provisions for controlling toxic air pollutants, but EPA

2. U.S. Dept. of Transportation, Emergency Services Guide For Selected Hazardous Materials, Spills, Fire, Evacuation Area, Office of the Secretary of Transportation, Washington, D.C. 1973

has taken little action...In 10 years, EPA has brought only four hazardous air pollutants under control."³

"Some experts say that incineration merely trades one type of pollution hazard for another. John Ehrenfeld, consultant in the hazardous waste management group at Arthur D. Little, maintains that incineration 'converts a small probability of high risk into low-level but continuous exposures' from air pollution emissions."⁴

Location of hazardous waste facilities should be "in areas of low population density."⁵

"Public health and protection are the primary reasons for the development of a secure hazardous waste disposal facility, and are the primary factors to be considered in selecting a suitable site."⁶

"Placement of the facility near such high density development[urban and suburban areas] is generally not acceptable due to the risk to public health in the event of uncontrolled release of water or accidental spills. Areas of lower population density and activity are considered to be more attractive."⁷

Evacuation

No hazardous waste facility should be sited in any area unless it can be

3. The Growing Threat From Toxic Chemical Air Pollutants," David Doniger, The Amicus Journal, Winter 1981, p. 26

4. "The Recycling of Chemical Waste", Steven J. Marcus, New York Times, Jan. 8, 1984, Sec. 3 p.4

5. The Handbook of Hazardous Waste Management, by Amir A. Metry, Ph. D., P.E. Technomic Publishing Co., Washington, D.C. p. 433

6. The Handbook of Hazardous Waste Management, by Amir A. Metry, Ph. D., P.E. Technomic Publishing Co., Washington, D.C. p. 166

7. ibid. p. 166

demonstrated that an Evacuation Plan has been approved by the local governing body that is workable, realistic, and comprehensive. Such a plan must include:

- population density and its effect on evacuation
- difficult to evacuate portions of the population including but not limited to:
 - * children under 18
 - * senior citizens over age 62
 - * those who are disabled
 - * those currently hospitalized
 - * residents of nursing homes
 - * those whose primary language is not English
 - * those not owning automobiles

evacuation routes:

- * bottlenecks
- * maximum hourly traffic flow
- * effect of panic on maximum hourly traffic flow
- clear definition of evacuation area based on types of chemicals, their toxicity and the possible max. surface area covered by the chemicals(which influences the evaporation rate)

Whatever the buffer zone is, it is essential that a workable evacuation plan be written and approved by local governing bodies before approval is granted for a facility.

Other Issues

No facility should be built within 5 miles of any City or town where the current age-adjusted cancer death rate is more than 5% higher than the national average.

A large portion of New Jersey is known as "cancer alley". Since the population of these areas already bears a higher risk of cancer, every effort

should be made to reduce the population's risk, and certainly nothing should be done by the government to increase it. Various studies have shown certain chemicals to be carcinogenic, come in extremely small quantities. The effects of many other chemicals have not been studied. Synergistic effects are in the main unknown. Current toxic pollution levels in many of these areas are very high. Few standards exist. Preliminary studies have shown a relationship between the location of hazardous waste facilities and higher cancer rates.⁸

No facility should be built within 5 miles of any City or town where the current age-adjusted heart disease death rate is more than 5% higher than the national average.

A large portion of New Jersey suffers from very high rates of heart disease. Since the population of these areas already bears a higher risk of heart disease, every effort should be made to reduce the population's risk, and certainly nothing should be done by the government to increase it. Various studies have shown certain chemicals to cause heart disease, some in extremely small quantities. The effects of many other chemicals have not been studied. Synergistic effects are in the main unknown. Current toxic pollution levels in many of these areas are very high. Few standards exist.⁹

No hazardous waste facility should be built within 5 miles of:

- any known past or present, legally or illegally operating major hazardous waste facility
- any large chemical plant
- any large natural gas storage tanks
- any area contaminated with dioxin at levels above 1ppb.

It is well known that risks are additive and often synergistic. Certain sectors of the population are currently exposed to more than their fair share of risks of health damage.

Current Air Pollution

8. See, for example Dr. Louria's work at the New Jersey College of Medicine and Dentistry

9. See, for example, Dr. Duncan Hutcheon's work, the New Jersey College of Medicine and Dentistry

Present concentrations of toxic waste in an area should be reduced before any more is brought into the same area.